STATE OF CALIFORNIA — ENVIRONMENTAL PROTECTION AGENCY

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

REGION 2
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June 6, 1996

Engineering Facility Activities, West
Attn: Richard Powell [1832]
900 Commodore Drive
San Bruno, california

Dear Mr. Powell:

FINAL FACILITY-WIDE GROUNDWATER MONITORING PLAN HUNTERS POINT ANNEX

The Department of Toxic Substances Control (Department) has reviewed the above report and responses to our comments. There are several points that require further clarification and addition. To save resources, we ask the Navy to respond in a letter in lieu of rewriting the Monitoring Plan. We believe that the Monitoring Plan should encompass the following.

1. It is very important to articulate the purpose of the groundwater Monitoring Program. For example, is the Monitoring Plan going to identify the migration of groundwater plumes to the San Francisco Bay only? Or, is the Monitoring Plan going to identify the groundwater contamination migrating in all directions? Our evaluation of the Monitoring Plan depends on review of the location of monitoring wells vis-a-vis areas of concern.

2. Table 3 of the Final EE/CA indicates existence of 44 monitoring wells in the lower aquifers. It is thus unclear to us why the Monitoring Plan does not fully address the conditions/migration of contaminants in the lower aquifers, despite detection of contaminants. With 44 monitoring wells in the lower aquifers, it is possible to develop a plan of monitoring of contaminants. After all, there has not been a satisfactory explanation for detection of contaminants in the lower aquifer(s). Possibility of downward migration of contaminants is likely and thus should be considered. We therefore, ask the Navy to reevaluate the monitoring wells associated with lower aquifer(s) and expand the Monitoring Plan. We believe that most of the wells in the lower aquifer(s) should be frequently sampled.

3. It has recently come to the attention of the Department that at several military sites along with TCE and/or 1,1,1- TCA groundwater contamination, another compound has been detected. This additional compound has been identified as 1,4-dioxane, also known as diethylene ether, 1,4-diethylene dioxide, dioxyethylene ether, p-dioxane, 1,4-diethylene oxide, diethlene dioxide, and diethyle oxide. This compound was used as a stabilizer during the manufacturing of TCE and TCA, and to a lesser extent other solvents. It is a degradation inhibitor. Compound 1,4 dioxane has been designated as a Category I carcinogen by Occupational Safety and Health Administration (OSHA) and as a probable human carcinogen by US EPA. Because it has an affinity for water, it is hard to detect it using standard preparation and analytical methods. Some grades of TCE may have contained 3 to 6% dioxane. Both State and US EPA have recognized the difficulty in analyzing for this compound and have made recommendations on how best to proceed. US EPA has proposed a new preparation method in Update III of SW-846. The method is 5031 and involves an azeotropic distillation to separate the dioxane from water. The method of choice for analysis is 524.2 or 8260A. The Department Hazardous Material Laboratory (HML) has proposed a modification to method 8240 to enhance of finding dioxane in the sample. HML proposed adding sodium sulfate to the sample and sparging at an elevated temperature to drive the dioxane out of the water. We therefore, ask the Navy, to analyze for 1,4 dioxane in areas of TCE groundwater contamination. The Department recommends to discuss the matter further, should the results indicate positive.

Sincerely,

Cyrus Shabahari
Project Manager
Office of Military Facilities

cc: US EPA, Region IX
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